



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,560	01/15/2004	Fufang Zha	2004P87077US	8107
28524 7590 06/11/2008 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			EXAMINER SORKIN, DAVID L.	
			ART UNIT	PAPER NUMBER
			1797	
			MAIL DATE	DELIVERY MODE
			06/11/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/759,560

**Applicant(s)**

ZHA ET AL.

**Examiner**

David L. Sorkin

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 7-15, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-167407 in view of Meyer (US 3,791,631). Regarding claim 1, JP 61-167407 discloses a method for forming at least one opening (5) in a membrane pot, the method comprising providing at least one membrane (2), the membrane having two ends; providing a mold (9,11,12) for potting the membrane end, the mold comprising a base (12) comprising at least one formation (11) for forming at least one opening (5) in a membrane pot; filling the mold with a curable potting material (3); positioning the membrane end in the mold, allowing the potting material to cure, whereby the membrane ends are secured in the membrane pot (see Fig. 3); and demoulding the membrane pot (see that the mold is absent from the final product as shown in Fig. 1), the membrane pot having at least one opening (see Fig. 1). It is not disclosed that the base has an ejector portion which is raised to demold. Meyer ('631) teaches a base having an ejector portion (162) and raising the ejector portion to demold. It would have been obvious to one of ordinary skill in the art to have provided the base of the mold with an ejector to assist removing the molded object as taught by Meyer ('631) (see col. 8, lines 22-27). Regarding claim 3, the formation comprises at

least one upstanding pin (11) mounted in a base of the mold (see Fig. 2A). Regarding claim 4, raising a central ejector portion of the base is also taught by Meyer ('631) (see Figs. 7 and 8). Regarding claim 7, a collar is around the periphery of the mold (see Fig. 3). Regarding claim 8, the mould comprises a base (12) having a plurality of upstanding pins (11). Regarding claim 9, the upstanding pins are sized and distributed for correct gas bubble distribution (see Figs. 2A and B). Regarding claim 10, a plurality of ends of hollow fiber membranes (2) are positioned in the mold. Regarding claim 11, the membrane ends are positioned uniformly in the mold (see Fig. 2B). Regarding claim 12, the membrane ends are sealed (see Fig. 3). Regarding claim 13, the membrane ends are uniformly distributed in relation to at least one opening (see Fig. 2B). Regarding claim 14, the membranes are positioned in a sleeve that holds the membranes; and inserted into a collar around a periphery of the mold (see Fig. 3). The order of steps required by claim 15, filling with curable material before placing membranes, is not explicitly disclosed. However, the following decisions are relied upon for holding selection of the order of adding materials is prima facie obvious: *Ex parte Rubin* 128 USPQ 440 (Bd. App. 1959), *In re Burhans* 69 USPQ 330 (CCPA 1946), and *In re Gibson* 5 USPQ 230 (CCPA 1930). Regarding claim 17, the membrane ends are trimmed to provide uniform length (see abstract). Regarding claims 19 and 20, the plurality of ends are positioned in the mould to form a cylindrical array (see Fig. 3).

3. Claims 1-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Geary (US 3,442,002) in view of JP 61-167407 and further in view of Meyer (US 3,791,631). Regarding claims 1, 3 and 8-10, Geary ('002) discloses a method comprising providing

Art Unit: 1797

a plurality of hollow fiber membranes (at least two if 111), the membranes having ends, providing a mold (101 including 905a or 905b) for potting the membrane end; filling the mold with curable potting material (see col. 21, lines 48-55); positioning the membrane end in the mold (see col. 21, lines 48-55, Fig. 13-18); allowing the potting material to at least partially cure, whereby the membrane ends are secured in a membrane pot (see col. 21, lines 64-66); and demolding the membrane pot (see col. 21, lines 66-68).

Forming an opening by providing a formation in the base of the mold is not disclosed.

JP 61-167407 teaches using formations (11) in the base (12) of a mold to make openings (5) in a membrane pot. It would have been obvious to one of ordinary skill in the art to place openings in the membrane pot of Geary ('002) to achieve even feed and high efficiency filtration as explained in the abstract of JP 61-167407. It is not disclosed that the base has an ejector portion which is raised to demold. Meyer ('631) teaches a base having an ejector portion (162) and raising the ejector portion to demold (see col. 8, lines 22-27). It would have been obvious to one of ordinary skill in the art to have provided the base of the mold with an ejector to assist removing the molded object as taught by Meyer ('631) (see col. 8, lines 22-27). Regarding claim 2, the mold is mounted on a vertically movable platform (see solid vs. phantom lines in Fig. 20). Regarding claim 4, demolding comprises raising a central ejector portion of the mold (see Figs. 7 and 8). Regarding claim 5, in col. 6, lines 45-46 of Geary et al. (US 3,442,002) it would be clear to one of ordinary skill in the art that the phrase "cooling ... or cooling" should read cooling ... or heating. Regarding claim 6, the mold is centrifuged (see col. 21, lines 48-62). Regarding claim 7, a collar is fitted around the

periphery of the mold (see Fig. 16). Regarding claim 11, the membrane ends are positioned uniformly (see Fig. 1). Regarding claim 12, the membrane ends are sealed (see Fig. 17). Regarding claim 13, the membrane ends are uniformly distributed in relationship to the at least one opening (see Fig. 1). Regarding claim 14, the membranes are positioned in a sleeve (for example 112) and inserted into a guide or collar around a periphery of the mold (see Fig. 16). The order of steps required by claim 15, filling with curable material before placing membranes, is not explicitly disclosed. However, the following decisions are relied upon for holding selection of the order of adding materials is prima facie obvious: *Ex parte Rubin* 128 USPQ 440 (Bd. App. 1959), *In re Burhans* 69 USPQ 330 (CCPA 1946), and *In re Gibson* 5 USPQ 230 (CCPA 1930). Regarding claim 16, the membrane ends are fanned (see Fig. 1). Regarding claim 17, the membrane ends are trimmed to provide a uniform membrane length (see col. 21, lines 68-75). Regarding claim 18, the membrane pot is cut transversely to open the membrane ends (see col. 21, line 68 to col. 22 line 3). Regarding claims 19 and 20, the membrane ends are positioned in the mold to form a cylindrical array (see Figs. 1-4 and 13-18).

#### ***Response to Arguments***

4. While it is true that JP 61-167407 does not disclose the claimed ejector portion, Meyer ('631) is relied upon for teaching such an ejector portion.
5. Contrary to applicant's remarks, JP 61-167407 does disclose demoulding. It is clear from the drawings, that the mould (9, including 12) which is shown in Figs. 2 and 3, is absent in the final product, which is shown in Fig. 1.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 7:30-4:00 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L. Sorkin/

David L. Sorkin  
Primary Examiner  
Art Unit 1797

DLS